



7FW

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

In re Application of:  
Manoj Ajbani et al  
For: THERMOPLASTIC ELASTOMER  
COMPOSITION  
Serial No.: 10/786,975  
Filed: February 25, 2004

) Docket No. DN2003-213  
) Art Unit: 1711  
) Examiner:

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to:  
Commissioner for Patents, P.O. Box 1450,  
Alexandria, VA 22313-1450, on November 12, 2004.

)   
Mary A. Nicoloff

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

**INFORMATION DISCLOSURE IN COMPLIANCE WITH 37 C.F.R. §1.98**

As a means of complying with the duty of disclosure set forth in 37 C.F.R. §1.56, the Applicants are calling the following to the attention of the Patent Office and request that they be considered by the Examiner:

United States Patent 3,758,643  
United States Patent 4,104,210  
United States Patent 4,130,535  
United States Patent 4,183,876  
United States Patent 4,202,801  
United States Patent 4,203,884  
United States Patent 4,311,628  
United States Patent 4,271,049  
United States Patent 4,340,684  
United States Patent 4,250,273  
United States Patent 4,343,918  
United States Patent 4,594,390  
United States Patent 5,021,500  
United States Patent 5,051,478  
United States Patent 5,248,729  
United States Patent 5,523,356  
United States Patent 5,621,045

United States Patent 6,051,681  
United States Patent 6,207,761  
United States Patent 4,803,244  
United States Patent 4,927,882  
United States Patent 5,672,660  
United States Patent 5,936,028  
United States Patent 6,069,202  
United States Patent 6,084,031  
United States Patent 6,150,464  
United States Patent 6,147,160  
United States Patent 6,169,145  
United States Patent 6,437,030  
United States Patent 3,686,364  
United States Patent 3,865,776  
United States Patent 6,090,880  
United States Patent 5,064,910  
United States Patent 4,553,578  
United States Patent 4,444,236  
United States Patent 5,362,794  
United States Patent 5,677,399  
United States Patent 5,786,441  
United States Patent 6,008,295  
United States Patent 6,252,007  
United States Patent 6,228,908  
United States Patent 6,251,998

However, the above-listed references may not be prior art under 35 U.S.C. §102 and this document should not be construed as an admission that any of the above-listed references are prior art within the meaning of 35 U.S.C. §102.

United States Patent 3,758,643 may be relevant to the prosecution of the subject patent application because it discloses blends of partially cured monoolefin rubber such as EPDM or EPM with a polyolefin resin (polypropylene) where the rubber phase was cured with a peroxide. The compositions were useful as thermoplastic elastomers.

United States Patent 4,104,210 may be relevant to the prosecution of the subject patent application because it discloses compositions of blends of vulcanized high diene rubbers with crystalline thermoplastic polyolefin resins.

United States Patent 4,130,535 may be relevant to the prosecution of the subject patent application because it discloses blends of polyolefin resins and completely cured monoolefin copolymer rubber such as Ethylene-Propylene-Diene rubber.

United States Patent 4,183,876 may be relevant to the prosecution of the subject patent application because it discloses thermoplastic compositions of crystalline thermoplastic polyolefin resins and cross-linked polyalkenamer rubber.

United States Patent 4,202,801 may be relevant to the prosecution of the subject patent application because it discloses dynamically and partially cured blends of monoolefin copolymer rubbers such as ethylene-propylene copolymer rubbers or ethylene-propylene-diene terpolymer rubbers, polyolefin resin, and conjugated diene rubbers such as cis-1,4 polyisoprene or cis-polybutadiene or polychloroprene.

United States Patent 4,203,884 may be relevant to the prosecution of the subject patent application because it discloses blends of polynorborene, plasticizer, and thermoplastic polyolefin resins.

United States Patent 4,311,628 may be relevant to the prosecution of the subject patent application because it discloses blends of polypropylene and EPDM where EPDM was cured with phenolic resins for better oil resistance.

United States Patent 4,271,049 may be relevant to the prosecution of the subject patent application because it discloses blends of crystalline polypropylene and cured rubbers including styrene-butadiene rubber up to 25 weight % styrene or alpha-methyl styrene and the rubber is cured with phenolic or urethane or sulfur donor curative.

United States Patent 4,340,684 may be relevant to the prosecution of the subject patent application because it is similar to United States Patent 4,250,273 and further teaches partial curing of the rubber and narrows the claims for the melt flow rate of the formed blend.

United States Patent 4,250,273 may be relevant to the prosecution of the subject patent application because it discloses thermoplastic ter-blend compositions comprising of about 10 to 50 parts of a crystalline 1-olefin polymer, about 80 to 15 parts of a random styrene-butadiene rubber copolymer and from about 5 to 55 parts of a highly saturated elastomer.

United States Patent 4,343,918 may be relevant to the prosecution of the subject patent application because it claims processes for making blends primarily disclosed in United States Patent 4,250,273.

United States Patent 4,594,390 may be relevant to the prosecution of the subject patent application because it discloses a process for preparation of thermoplastic elastomers

of polypropylene and EPDM under conditions of high shear required for dynamic vulcanization of the EPDM.

United States Patent 5,021,500 may be relevant to the prosecution of the subject patent application because it discloses TPO compositions prepared with a crystalline thermoplastic resin and a halobutyl rubber.

United States Patent 5,051,478 may be relevant to the prosecution of the subject patent application because it provides a dynamically vulcanized composition comprising of a polyolefin resin, an elastomer, and an ethylene copolymer resin such as a copolymer of ethylene and vinyl acetate or an alkyl acrylate.

United States Patent 5,248,729 may be relevant to the prosecution of the subject patent application because it discloses the process for making thermoplastic composition by heat treating a mixture of a thermoplastic resin with no olefinic unsaturated carbon-carbon bond, an elastomer from the group of SBS, SIS, 1,2-polybutadiene rubber, and EPDM rubber, with a crosslinking agent of dihydroaromatic compound.

United States Patent 5,523,356 may be relevant to the prosecution of the subject patent application because it teaches blends obtained by dynamic vulcanization of polypropylene, polyisobutene, EPDM rubber, and polybutadiene.

United States Patent 5,621,045 may be relevant to the prosecution of the subject patent application because it discloses thermoplastic vulcanizates from semi-crystalline polyolefins and blends of crosslinked rubbers with one rubber being C4 to C7 isomonoolefin based (isobutylene) and rubber being EPDM or rubbers derived from a conjugated diene.

United States Patent 6,051,681 may be relevant to the prosecution of the subject patent application because it discloses a process for preparation of thermoplastic elastomer with a rubber such as ethylene-alpha-olefin diene terpolymer (EPDM) and a thermoplastic resin, phenolic curative, a hydrotalcite and a HALS compound.

United States Patent 6,207,761 may be relevant to the prosecution of the subject patent application because it discloses thermoplastic ionomer blend or alloy composition containing an ionomer, crosslinked rubber and polyolefin resins.

United States Patents 6,090,880, 5,064,910, 4,553,578, 4,444,236, 5,362,794, 5,677,399, 5,786,441, 6,008,295, 6,252,007, 6,228,908 may be relevant to the prosecution of the subject patent application because they disclose some examples of modified or coupled solution elastomers such as tin or silicon-coupled, with several variations that may also be used in blends as disclosed in this invention.

United States Patent 6,251,998, 6,169,145, 6,150,464, 6,147,160, 6,084,031,

5,672,660, 5,936,028, 4,803,244 may be relevant to the prosecution of the subject patent application because they teach the methods and hydrosilation crosslinking systems that are useful and can be used in this invention.

United States Patent 6,069,202 may be relevant to the prosecution of the subject patent application because it teaches a thermoplastic elastomer composition that is prepared by blending a polar thermoplastic and non-elastomeric resin, olefinic rubber, and halogenated rubbery copolymer, wherein the rubbers are dynamically vulcanized.

United States Patent 5,962,573, 6,166,132, 6,166,139 may be relevant to the prosecution of the subject patent application because they disclose compositions and methods for making directly paintable TPO applications.

United States Patent 4,927,882 may be relevant to the prosecution of the subject patent application because it discloses a thermoplastic elastomer produced by dynamic vulcanization of SBR to form a dispersed phase of crosslinked SBR in a co-continuous phase of SEBS and polypropylene. The blends were useful in pharmaceutical, consumer and health industries.

United States Patent 3,686,364 and United States Patent 3,865,776 may be relevant to the prosecution of the subject patent application because they give some examples of block copolymers that may be used in the practice of this invention.

United States Patent 6,437,030 may be relevant to the prosecution of the subject patent application because it teaches the preparation of a thermoplastic elastomer composition prepared with a thermoplastic crystalline resin and a rubber, wherein the dynamic vulcanization of the rubber was carried-out using a phenolic resin in the presence of a catalyst formed by a metal halide and a metal carboxylate.

Form PTO-1449 is enclosed herewith.

Respectfully submitted,



Alvin T. Rockhill  
Attorney for Applicant(s)  
Reg. No. 30,417

The Goodyear Tire & Rubber Company  
1144 East Market Street, D/823  
Akron, Ohio 44316-0001  
Telephone: (330)796-2850 or (330) 666-4659

NOV 15 2004

Sheet 1 of 3

<b>FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE</b> <b>PATENT AND TRADEMARK OFFICE</b>  <b>INFORMATION DISCLOSURE</b> <b>STATEMENT BY APPLICANT</b> (Use several sheets if necessary)	<b>ATTY DOCKET NO.</b> DN2003-213	<b>SERIAL NO.</b> 10/786,975
	<b>APPLICANT (S)</b> Manoj Ajbani et al	
	<b>FILING DATE</b> FEBRUARY 25, 2004	<b>GROUP</b> 1711

**U.S. PATENT DOCUMENTS**

Examiner Initial	Document Number	Date	Name	Class	Sub-class	Filing Date if Appropriate
	3,758,643	Sept. 11, 1973	Fisher	260	897	
	4,104,210	Aug. 1, 1978	Coran et al	525	232	
	4,130,535	Dec. 19, 1978	Coran et al	524	487	
	4,183,876	Jan. 15, 1980	Coran et al	525	232	
	4,202,801	May 13, 1980	Petersen	525	232	
	4,203,884	May 20, 1980	Coran et al	524	518	
	4,311,628	Jan. 19, 1982	Abdou-Sabet et al	525	232	
	4,271,049	June 2, 1981	Coran	525	191	
	4,340,684	July 20, 1982	Bohm et al	525	194	
	4,250,273	Feb. 10, 1981	Bohm et al	525	99	
	4,343,918	Aug. 10, 1982	Bohn et al	525	194	
	4,594,390	June 10, 1986	Abdou-Sabet et al	525	232	
	5,021,500	June 4, 1991	Puydak et al	524	525	
	5,051,478	Sept. 24, 1991	Puydak et al	525	195	
	5,248,729	Sept. 28, 1993	Inoue et al	525	92B	
	5,523,356	June 4, 1996	Aldrovandi et al	525	237	
	5,621,045	Apr. 15, 1997	Patel et al	525	237	

**FOREIGN PATENT DOCUMENTS**

Examiner Initial	Document Number	Date	Country	Class	Sub-Class	Translation YES NO

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

Examiner Initial	
EXAMINER	DATE CONSIDERED:

**Examiner:** Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<b>FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use several sheets if necessary)	<b>ATTY DOCKET NO.</b> DN2003-213	<b>SERIAL NO.</b> 10/786,975
	<b>APPLICANT (S)</b> Manoj Ajbani et al	
	<b>FILING DATE</b> FEBRUARY 25, 2004	<b>GROUP</b> 1711

### U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Sub-class	Filing Date if Appropriate
	6,051,681	Apr. 18, 2000	Dozeman et al	528	485	
	6,207,761	Mar. 27, 2001	Smith et al	525	221	
	4,803,244	Feb. 7, 1989	Umpleby	525	105	
	4,927,882	May 22, 1999	Bayan	525	99	
	5,672,660	Sep. 30, 1997	Medsker et al	525	101	
	5,936,028	Aug. 10, 1999	Medsker et al	524	506	
	6,069,202	May 30, 2000	Venkataswamy et al	525	66	
	6,084,031	July 4, 2000	Medsker et al	525	192	
	6,150,464	Nov. 21, 2000	Medsker et al	525	101	
	6,147,160	Nov. 14, 2000	Wang et al	525	106	
	6,169,145	Jan. 2, 2001	Medsker et al	525	00	
	6,437,030	Aug. 20, 2002	Coran et al	524	101	
	3,686,364	Aug. 22, 1972	Robinson et al	260	876	
	3,865,776	Feb. 11, 1975	Gergen	260	33.6	
	6,090,880	Jul 18, 2000	Zimmer et al	524	492	
	5,064,910	Nov. 12, 1991	Hattori et al	525	359.1	

### FOREIGN PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Country	Class	Sub-Class	Translation YES NO

### OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

Examiner Initial		
EXAMINER	DATE CONSIDERED:	

**Examiner:** Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<b>FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use several sheets if necessary)	<b>ATTY DOCKET NO.</b> DN2003-213	<b>SERIAL NO.</b> 10/786,975
	<b>APPLICANT (S)</b> Manoj Ajbani et al	
	<b>FILING DATE</b> FEBRUARY 25, 2004	<b>GROUP</b> 1711

### U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Sub-class	Filing Date if Appropriate
	4,553,578	Nov, 19, 1985	Vitus et al	152	209.1	
	4,444,236	Apr. 24, 1984	Kan et al	152	209.5	
	5,362,794	Nov. 8, 1994	Inui et al	524	496	
	5,677,399	Oct. 14, 1997	Hall	526	83	
	5,786,441	Jul 28, 1998	Lawson	528	229	
	6,008,295	Dec. 28, 1999	Takeichi et al	525	105	
	6,252,007	June 26, 2001	Oziomek et al	525	332.6	
	6,228,908	May 8, 2001	Takeichi et al	524	27	
	6,251,998	June 26, 2001	Medsker et al	525	192	

### FOREIGN PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Country	Class	Sub-Class	Translation YES NO

### OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

Examiner Initial		
EXAMINER	DATE CONSIDERED:	

**Examiner:** Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.